LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY

STAFF REPORT

SUBJECT: Purchase & Installation of Cradlepoint Routers

FROM: Mike Tobin, Director of Operations & Planning
Ethan Yeung, Operations Analyst

DATE: May 5, 2025

Action Requested
Recommend that the Board of Directors: (1) approve Resolution 17-2025 issuing a purchase order for the procurement of sixty (60) Cradlepoint R1900 routers and associated modems, switches, and antennas to Always Connect Solutions, LLC (ACS) for a value of $279,894.54, plus a 10% contingency in the amount of $27,989.45, for a total not-to-exceed amount of $307,884; and (2) approve Resolution 18-2025, awarding a contract to Vontas, a business unit of Trapeze Software Group, Inc. (Vontas) for the installation of the Cradlepoint equipment for a value of $195,926, plus a 10% contingency in the amount of $19,592.60, for a total not-to-exceed amount of $215,518.60.

Background
Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) systems are crucial in transit operations because they enhance efficiency, safety, and service reliability. CAD helps dispatchers monitor and manage buses in real-time, enabling quick responses to disruptions, schedule changes, or emergencies. AVL provides precise location tracking, which supports better route adherence, accurate arrival predictions, and improved communication with passengers through real-time updates. Together, these systems optimize operations, reduce delays, and improve the overall rider experience.

Currently, LAVTA's CAD/AVL system relies on radio connectivity to provide both voice and data communications with the agency's fleet, which has several disadvantagesDisadvantages.

First, there is limited and sometimes spotty coverage. For example, every weekday when our buses travel along I-680 to service Route 70X, they exit the range of radio coverage. This causes the buses to disappear from the dispatcher's map and makes communication with the driver difficult. Additionally, in certain areas around the Tri-Valley (e.g., the BART tunnel under I-580) radio coverage is spotty. As a result, the buses are unable to send frequent location data, which causes incorrect arrival predictions and schedule adherence data.

Second, radio-based CAD/AVL is unreliable. The current system requires LAVTA to maintain radio equipment at a tower in the hills of northwestern Livermore. Despite

redundancies put in place to keep the system running, outages still occur, especially during stormy winter months and PG&E Public Safety Power Shutoff (PSPS), which happen frequently during the summer months. In addition, technical difficulties occasionally cause system outages. During those times, vehicle locations are not updated, communications are severely impacted, and real time passenger information feeds are not available. In the worst cases, dispatchers have been forced to call drivers on their cell phones to communicate crucial information.

Finally, maintaining the radio system imposes significant costs while offering diminishing returns. Expensive equipment, such as the propane generator and uninterruptible power supplies (UPS) located at the Doolan tower, is required to maintain the redundancy of the radio infrastructure, which itself demands substantial investment. Additionally, due to the sensitive nature of the site, coordination with Livermore Water Resources and the Livermore Police Department is essential, further increasing maintenance demands.

As the radio infrastructure ages, these challenges only worsen. Maintenance expenses increase due to the scarcity of replacement parts and the highly specialized expertise needed to service outdated systems and equipment. Meanwhile, the system's capabilities have become increasingly outdated, falling behind modern solutions that offer richer data, reduced latency, greater coverage and advanced features. This imbalance places a growing financial strain on LAVTA, requiring greater resources to sustain a system that delivers declining benefits. Transitioning to modern alternatives would ensure more efficient use of resources and greater operational capabilities that would directly lead to enhanced service delivery.

Discussion

LAVTA aims to address the challenges of the radio-based system and take advantage of the latest new technology by transitioning to a cellular-based connectivity system, which is in line with the industry's best practices.

Firstly, cellular coverage extends across the entire service area, areas currently outside of the range of radio coverage. While signal strength of a cellular-based system may not be perfect in all locations, it would be significantly improved compared to radio connectivity. Reliability and maintenance would also see improvements, as the downtime of a cellular-based system would be substantially less than the current radio system. Additionally, maintenance costs would be managed by contracted service providers, eliminating the need for LAVTA to maintain any dedicated equipment. Moreover, transitioning to a cellular based connectivity system allows LAVTA to incorporate an element of futureproofing. As cellular technology evolves rapidly, upgrades can be more readily implemented without requiring major overhauls to the network.

The opportunity to incorporate cutting-edge technology is also attractive. The higher data capacity of cellular systems allows it to support features such as live vehicle diagnostics, live video streaming, real-time traffic updates and turn-by-turn directions. It would also enable seamless integrations with transit data partners like Swiftly to provide more accurate arrival predictions and other analytics.

LAVTA can benefit from all these features without the expense and hassle of removing the existing radio equipment. The cellular equipment can be added to the radio equipment, allowing the radio system to remain as an alternative option if needed. This approach ensures a smooth transition to the cellular system, with the radio system serving as a seamless failover in case of any disruptions. This way, the agency can continue to derive value from the radio system as a backup option.

Procurement Preparation
Sourcewell is a cooperative purchasing organization that serves government, education, and nonprofit entities. Sourcewell and TD Synnex Corporation entered into a Contract pursuant to RFP #020624, (Contract), effective May 3, 2024, under which LAVTA may contract for equipment by using a Purchase Order (PO) or entering into a contract directly with TD Synnex Corporation or any of its authorized resellers. Always Connect Solutions, LLC is an authorized reseller of TD Synnex Corporation. Therefore, LAVTA intends to procure Cradlepoint routers and other related equipment through a purchase order to Always Connect Solutions, LLC pursuant to the Contract between Sourcewell and TD Synnex Corporation.

By leveraging the Sourcewell agreement, LAVTA can efficiently acquire the Cradlepoint routers needed for fleet connectivity while ensuring cost-effectiveness and compliance with procurement regulations.

Vontas, LAVTA's current CAD/AVL provider, will install and configure the equipment on the fleet under a separate contract.

Fiscal Impact
Funding for this project is included in the FY2025 Capital Budget.
Table 1 below provides a breakdown of the total project costs, divided between the two contracts.

- One purchase order will be issued to Always Connect Solutions, LLC for the purchase of sixty (60) Cradlepoint R1900 routers and associated licenses, modems, switches, and antennas. The total estimated cost, including equipment, sales tax, and shipping, is **$279,894.54**. In addition, we suggest a **10% contingency** in the amount of $27,989.45, increasing the total not-to-exceed amount of $307,884.

- One contract will be issued to Vontas for the installation kits, associated cabling, licensing for the multimodal interface, and warranty. The total for this portion is **$195,926**. To account for unforeseen expenses, a **10% contingency** in the amount of $19,592.60, increasing the total not-to-exceed amount to $215,518.60.

Table 1 Project Budget Breakdown

Item	Unit Cost	Qty	Total
5-yr NetCloud Mobile Performance Plan and R1900 router with WiFi	$ 2,759.31	60	$ 165,558.60
R1900 Managed Accessory – Switch	$ 172.49	60	$ 10,349.40

5G Modem	$ 689.99	60	$ 41,399.40
4x4 MiMo 4G/5G White Dome Antenna Kit with 5-meter cables	$ 304.71	120	$ 36,565.20
Shipping, Handling, Services			$ -
Sales Tax (10.25%)			$ 26,021.94
Subtotal for ACS			**$ 279,894.54**
ACS Contingency Amount			$ 27,989.45
Licensing for Vontas OnRoute Multimode Interface Qty. up to 60	$ 250	60	$ 15,000
Installation Kit, Cabling and Parts as set forth in the Statement of Work	$ 252.0167	60	$ 15,121
Services and Expenses as set forth in the Statement of Work	$ 162,805	1	$ 162,805
Hardware Warranty – Year 1			$ -
Software Warranty – Ninety (90) days			$ -
Vontas OnRoute Multimode Interface Software Maintenance – Year 1 Qty. Up to 60	$ 50	60	$ 3,000
Subtotal for Vontas			**$ 195,926.00**
Vontas Contingency Amount			$ 19,592.60

Grand Total w/ 10% Contingency for ACS	**$ 307,884.00**
Grand Total w/ 10% Contingency for Vontas	**$ 215,518.60**

Recommendation

Recommend that the Board of Directors approve (1) a purchase order issued to Always Connect Solutions, LLC for the purchase of sixty (60) Cradlepoint R1900 routers and associated licenses, modems, switches, and antennas for **$279,894.54**, plus a **10% contingency** in the amount of $27,989.45, increasing the total not-to-exceed amount to $307,884; and (2) a contract to Vontas, a subdivision of Trapeze Software Group, Inc., for the installation kits, associated cabling, licensing for the multimodal interface, and warranty for **$195,926**, plus a **10% contingency** in the amount of $19,592.60, increasing the total not-to-exceed amount to $215,518.60.

Attachments:

1. Resolution 17-2025
2. Resolution 18-2025

RESOLUTION NO. 17-2025

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY AUTHORIZING THE EXECUTIVE DIRECTOR TO APPROVE THE PROCUREMENT OF CRADLEPOINT ROUTERS

WHEREAS, the Livermore Amador Valley Transit Authority (LAVTA), in utilizing its Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) system, experiences multiple impediments to efficient operations, including radio connectivity and maintenance difficulties; and

WHEREAS, to address the challenges of the radio-based system and integrate cellular-based operations, LAVTA intends to procure sixty (60) Cradlepoint routers and other related equipment; and

WHEREAS, the Cradlepoint router system's cellular coverage would ameliorate the issues present within the CAD/AVL system by supplementing the current radio-based coverage with cellular coverage, which boasts improved reliability, enhanced technological integration, and lowered maintenance costs; and

WHEREAS, LAVTA can utilize a cooperative purchasing agreement between Sourcewell and TD Synnex Corporation to attain a cost-effective price on technology, service, and infrastructure for the Cradlepoint routers; and

WHEREAS, staff recommends that the Board of Directors approve a purchase order to Always Connect Solutions, LLC for the purchase of sixty (60) Cradlepoint R1900 routers and associated modems, switches, and antennas for $279,894.54, plus a 10% contingency in the amount of $27,989.45, increasing the total not-to-exceed amount to $307,884.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Livermore Amador Valley Transit Authority that the Executive Director is authorized to execute documents in forms approved by Legal Counsel to procure sixty (60) Cradlepoint R1900 routers and associated modems, switches, and antennas for $279,894.54, plus a 10% contingency in the amount of $27,989.45, increasing the total not-to-exceed amount to $307,884.

PASSED AND ADOPTED THIS 5th DAY OF MAY 2025.

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Evan Branning, Chair

ATTEST

Christy Wegener, Executive Director

RESOLUTION NO. 18-2025

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE LIVERMORE AMADOR VALLEY TRANSIT AUTHORITY AUTHORIZING THE EXECUTIVE DIRECTOR TO APPROVE THE INSTALLATION OF CRADLEPOINT ROUTERS

WHEREAS, the Livermore Amador Valley Transit Authority (LAVTA), in utilizing its Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) system, experiences multiple impediments to efficient operations based primarily on radio connectivity and maintenance difficulties; and

WHEREAS, to address the challenges of the radio-based system and integrate cellular-based operations, LAVTA intends to procure sixty (60) Cradlepoint routers and other related equipment; and

WHEREAS, Vontas, a business unit of Trapeze Software Group, Inc. (Vontas), the current provider of LAVTA's CAD/AVL system, is uniquely positioned to ensure that the Cradlepoint routers are installed alongside the CAD/AVL system in an efficient, technically sound, and fully integrated manner; and

WHEREAS, no other vendor can perform this work without substantial risk of compatibility issues, data integrity errors, or loss of support for future software updates; and

WHEREAS, Vontas will install the new Cradlepoint equipment, while the radio infrastructure will remain intact as a backup option; and

WHEREAS, staff recommends that the Board of Directors approve a sole source contract to Vontas for the installation kits, associated cabling, licensing for the multimode interface, and warranty of sixty (60) Cradlepoint R1900 routers and associated equipment for $195,926, plus a 10% contingency in the amount of $19,592.60, increasing the total not-to-exceed amount to $215,518.60.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Livermore Amador Valley Transit Authority that the Executive Director is authorized to execute documents in forms approved by Legal Counsel to enter into a sole source contract with Vontas for the installation kits, associated cabling, licensing for the multimode interface, and warranty of sixty (60) Cradlepoint R1900 routers and associated equipment for $195,926, plus a 10% contingency in the amount of $19,592.60, increasing the total not-to-exceed amount to $215,518.60.

PASSED AND ADOPTED THIS 5th DAY OF MAY 2025.

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Evan Branning, Chair

ATTEST

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Christy Wegener, Executive Director